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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,746	07/28/2003	Hiroaki Aizawa	14-017	3812

23400 7590 03/15/2007
POSZ LAW GROUP, PLC
12040 SOUTH LAKES DRIVE
SUITE 101
RESTON, VA 20191

EXAMINER

NGUYEN, THU V

ART UNIT	PAPER NUMBER
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3661

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/627,746

Applicant(s)

AIZAWA ET AL.

Examiner

Thu Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 9-11 and 14-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5 is/are rejected.
- 7) ☒ Claim(s) 4,6-8,12 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/28/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The response to the restriction requirement filed on January 3, 2007 has been entered. By this response, the species I (including claims 1-8, 12-13) has been elected without traverse, accordingly, claims 1-8, 12-13 are examined in this office action.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa (US 5,875,766) in view of Tanaka et al (JP 11-048822).

As per claim 1, Ozawa discloses an automatic brake device, the device comprises: a braking-force application unit 336 (fig.1) that applies a braking force on a wheel of a vehicle on the basis of a brake actuating signal (col.6, lines 23); an intended direction detecting unit 61a (fig.1) that detects an intended movement direction in which a driver intends to move the vehicle (col.5, line 67; col.6, line 1; col.10, lines 27-30); a starting intention detecting unit 63a (fig.1) that detects an operation input based on a starting intention of the driver (col.6, lines 2-3; col.10, lines 3-7); a movement direction detecting unit that detects an actual movement direction of the vehicle (col.2, lines 40-45); and a brake control unit that outputs the brake actuating signal (col.10, lines 39-42; col.11, lines 31-36). The brake control unit executes a halt-maintenance mode for driving the braking-force application unit for application of a halt-maintenance braking force on the wheel to maintain the vehicle in a halted state (col.6, lines 17-31), a movement

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direction detection mode for terminating the halt-maintenance mode at a time when the starting intention detecting unit detects the starting intention of the driver (col.6, lines 52-56), and for receiving input of the actual movement direction from the movement direction detecting unit (col.2, lines 39-40, lines 44-46). Ozawa does not explicitly teaches and an auxiliary brake mode for outputting the brake actuating signal. However, Ozawa teaches an auxiliary brake mode (compressor 42 (fig.1) and the mechanical supercharger 140 (fig.1)) that provides effects of brake based on the intended direction detecting unit (col.10, lines 55-64, lines 27-41).

Moreover, Tanaka suggests an auxiliary brake mode (the exhaust brake control means 108) for controlling the braking force on the basis of a relationship between the intended movement direction detected by the intended direction detecting unit (the shift position) and the actual movement direction (the actual vehicle speed) (para 0061-0063). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to replace the auxiliary brake taught by Ozawa with the auxiliary brake mode taught by Tanaka in order to accurately applying boosting brake suitable with the specific actual vehicle speed and shifting position to enhance safety and smooth operation.

As per claim 2, Ozawa teaches that the intended direction detecting unit is a shift position sensor detecting the intended movement direction of the driver from a shift position of a transmission of the vehicle (col.5, line 67; col.6, line 1; col.10, lines 27-30), and the starting intention detecting unit is an accelerator pedal operation amount sensor detecting an amount of operation of an accelerator pedal of the vehicle that is input by the driver (col.6, lines 2-3; col.10, lines 3-7).

As per claim 3, since Ozawa teaches increasing the speed of the compressor 42 (col.9, lines 49-50, lines 37-53), Ozawa obviously encompasses teaching determining movement direction when the brake force decreases such that the braking force is lower than the halt maintenance braking force.

As per claim 5, Ozawa teaches detecting the actual movement direction on the basis of a speed signal of the wheel of the vehicle (col.2, lines 37-42).

Allowable Subject Matter

3. Claims 4, 6-8, 12-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter:

Prior arts of record do not disclose an automatic brake device taught in claim 1 in combination of claims 3-4 in which the movement direction detecting unit determines the initial pressure decrease gradient on the basis of a magnitude proportional to a product of the halt-maintenance braking force and at least one of a physical quantity representing the degree of the starting intention and a duration of operation of the initial pressure decrease. Prior arts of record do not disclose an automatic brake device taught in claim 1 in combination of claim 6 or 8 or 12 in which, in the auxiliary brake mode, when the intended movement direction is opposite to the actual movement direction, the brake control unit executes a first opposite mode for outputting the brake actuating signal so as to increase the braking force at a predetermine increase gradient; or in the auxiliary brake mode, when the intended movement direction is opposite to the actual movement direction, the brake control unit executes a first opposite

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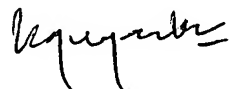
direction mode for controlling the braking force by feedback control in order to bring a movement speed of the vehicle in line with a preset target speed; or in the auxiliary brake mode, when the intended movement direction is the same as the actual movement direction, the brake control unit executes a same direction mode for outputting the brake actuating signal for decreasing the braking force at a predetermined decrease gradient.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Nguyen whose telephone number is (571) 272-6967. The examiner can normally be reached on T-F (7:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

March 10, 2007


THU V. NGUYEN
PRIMARY EXAMINER